

LISTING OF THE CLAIMS

This listing of claims replaces the claims originally in this application.

Claim 1 (Currently Amended): A context aware call handling system comprising:

- a shared database;
- a communication network;
- a user interface for setting user preference call handling rules; and
- an application level for making assertions to said shared database relating to current user context and incoming call information from a caller over said communication network, and in response handling said incoming call by applying said user preference call handling rules based on said user context and said call information-; and wherein

said application level further comprises a plurality of server modules and client modules for performing knowledge management and agent services, including:

a user knowledge management module for setting said current user context and said user preference call handling rules as assertions in said shared database;

a client agent services module for receiving a notification of said incoming call from said communication network and in response generating agent processing requests as assertions in said shared database;

a system knowledge management module having a context set sub-module for administrator creation and modification of context hierarchy; and

a server agent services module for receiving said agent processing requests via

said shared database and in response assigning at least one relationship between said user and said caller, retrieving said at least one relationship between the user and said caller and said current user context, and selecting a single one of said user preference call handling rules based on said relationship.

Claim 2. (Cancelled)

Claim 3 (Currently Amended): A system as claimed in claim-2¹, wherein said user knowledge management module further includes a buddy-list set sub-module for user creation and maintenance of a list containing information about individuals and relationships between said individuals and said user, a relationship set sub-module for user definition of a relationship hierarchy between said individuals and said user, a schedule set sub-module for user schedule setting, and a user-rule set sub-module for user setting of preferences for call handling based on one or more or said buddy-list, relationship hierarchy, and schedule.

Claim 4 (Original): A system as claimed in claim 3, wherein said client agent services module further includes a call delivery (CD) agent for receiving notification from said communication network of said incoming call and in response generating a request for call processing, and a system management (SM) agent for receiving said request for call processing and in 5 response generating said agent processing requests.

Claim 5 (Original): A system as claimed in claim 4, wherein said server agent services module further includes a relationship assigning (RA) agent for assigning said at least one relationship between said user and said caller according to said buddy-list, a user rule assigning (URA) agent for retrieving said at least one relationship between the user and said caller and said current user context, and a user conflict resolving (UCR) agent for responding to said system management (SM) agent with said single one of said user preference call handling rules based on said at least one relationship.

Claim 6 (Original): A system as claimed in claim 5, wherein said user conflict resolving (UCR) agent selects as said single rule one of either:

a most specific one of said user preference call handling rules having more conditions than other ones of said rules, in the event that said rules have different numbers of conditions;

one of said user preference call handling rules having more specific conditions than other ones of said rules, in the event that said rules have identical numbers of conditions;

a most recently created one of said rules; or

a randomly selected one of said rules.

Claim 7 (Previously Presented): A system as claimed in claim 1, further including a gateway between said call delivery (CD) agent and said communication network.

Claim 8 (Previously Presented): A system as claimed in claim 7, wherein said communication network is a PBX connected to the public switched telephone network (PSTN).

Claim 9 (Previously Presented): A system as claimed in claim 1, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 10 (Previously Presented): A system as claimed in claim 1, further including an event handler between said user interface and said application level for directing events from said user interface to appropriate modules of said application level.

Claim 11 (Previously Presented): A system as claimed in claim 1 wherein said shared database is a tuple space and said assertions are tuples.

Claim 12 (Currently Amended): A context aware call handling method according to user preference call handling rules, comprising:

- receiving an incoming call from a caller to a user;
- monitoring current context of said user; and
- applying said user preference call handling rules based on said user context and

45 said call information;

a user setting at least one caller relationship to said user;

applying said user preference call handling rules based further on said at least one caller relationship;

setting said current user context and said user preference call handling rules as tuples in a tuple space;

receiving a notification of said incoming call and in response generating agent processing requests as tuples in said tuple space; and

receiving said agent processing requests via said tuple space and in response assigning at least one relationship between said user and said caller, retrieving said relationship between the user and said caller and said current user context, and selecting a single one of said user preference call handling rules based on said relationship.

Claims 13-14. (Cancelled)

Claim 15 (Currently Amended): A method as claimed in claim-14~~12~~, further comprising:

~~a user creation-creating~~ and maintenance of ~~maintaining~~ a list containing information about individuals and relationships between said individuals and said user;

~~a user definition-of~~ ~~defining~~ a relationship hierarchy between said individuals and said user;

~~a user setting a schedule-setting; and~~

~~a user setting of~~ preferences for call handling based on one or more or said buddy-list, relationship hierarchy, and schedule.

Claim 16 (Currently Amended): A method as claimed in claim 14~~12~~, wherein said step of selecting said single one of said user preference call handling rules further comprises selecting as said single rule one of either:

a most specific one of said user preference call handling rules having more conditions than other ones of said rules, in the event that said rules have different numbers of conditions;

one of said user preference call handling rules having a more specific conditions than other ones of said rules, in the event that said rules have identical numbers of conditions; and otherwise

a most recently created one of said rules.

Claims 17-18. (Canceled)

Claim 19 (Currently Amended): ~~A system as claimed in claim 2, further~~
A context aware call handling system comprising:

a shared database;

a communication network;

a user interface for setting user preference call handling rules;

an application level for making assertions to said shared database relating to

current user context and incoming call information from a caller over said

communication network, and in response handling said incoming call by applying said

user preference call handling rules based on said user context and said call information;

and

including a gateway between said call delivery (CD) agent and said communication network.

Claim 20 (Previously Presented): A system as claimed in claim 3, further including a gateway between said call delivery (CD) agent and said communication network.

Claim 21 (Previously Presented): A system as claimed in claim 4, further including a gateway between said call delivery (CD) agent and said communication network.

Claim 22 (Previously Presented): A system as claimed in claim 5, further including a gateway between said call delivery (CD) agent and said communication network.

Claim 23 (Previously Presented): A system as claimed in claim 6, further including a gateway between said call delivery (CD) agent and said communication network.

Claim 24 (Currently Amended): A system as claimed in claim-2_1, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 25 (Previously Presented): A system as claimed in claim 3, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 26 (Previously Presented): A system as claimed in claim 4, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 27 (Previously Presented): A system as claimed in claim 5, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 28 (Previously Presented): A system as claimed in claim 6, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 29 (Previously Presented): A system as claimed in claim 7, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 30 (Previously Presented): A system as claimed in claim 8, wherein said user interface includes windows for login, user preference rule setting, context setting and message display.

Claim 31 (Currently Amended): ~~A method as claimed in claim 13, further comprising:~~ A context aware call handling method according to user preference call handling rules, comprising:

- receiving an incoming call from a caller to a user;
- monitoring current context of said user;
- applying said user preference call handling rules based on said user context and said call information,
- a user setting at least one caller relationship to said user;
- applying said user preference call handling rules based further on said at least one caller relationship;

setting said current user context and said user preference call handling rules as tuples in a tuple space;

receiving a notification of said incoming call and in response generating agent 25 processing requests as tuples in said tuple space; and

receiving said agent processing requests via said tuple space and in response assigning at least one relationship between said user and said caller, retrieving said relationship between the user and said caller and said current user context, and selecting a single one of said user preference call handling rules based on said relationship.

Claim 32 (Previously Presented): A method as claimed in claim 15, wherein said step of selecting said single one of said user preference call handling rules further comprises selecting as said single rule one of either:

a most specific one of said user preference call handling rules having more conditions than other ones of said rules, in the event that said rules have different numbers of conditions;

one of said user preference call handling rules having a more specific conditions than other ones of said rules, in the event that said rules have identical numbers of conditions; and otherwise

a most recently created one of said rules.